PE\_PRN221\_SP25\_011299 - Note

Spring 25  
Subject: PRN222

**INSTRUCTIONS**

**Please read the instructions carefully before doing the questions.**

* You are **NOT allowed** to use any other materials. You are **NOT allowed** to use any device to share data with others.
* You must use **Visual Studio 2019 or above, MSSQL Server 2008 or above** for your development tools.

**IMPORTANT – before you start doing your solution, MUST do the following steps:**

1. Create Solution in Visual Studio named **PE\_PRN222\_SP25\_011299\_StudentName**. Inside your Solution, the Project ASP.NET Core Razor Page must be named: **LionPetManagement\_StudentName.**
2. To do your program, you must use **ASP.NET Core Web App (Razor Pages)**, apply 3-Layer architecture (Presentation Layer, Business Logic Layer, Data Access Layer), there are at least 2 Projects fortheSolution. *The database connection string must get from the appsettings.json file.*

***In the case your code connects direct to the database from ASP.NET Core Web App (Razor Pages) or hard coded the connection string, you will get 0 point.***

1. Create your MS SQL database named **SP25LionDB** by running code in script **SP25LionDB.sql.**
2. Set the default user interface for your project as a **Login** page.
3. ***If there are syntax errors or compilation errors in your PE program, you will not pass the PE requirements, the mark will be 0.***
4. ***Your work will be considered invalid (0 point) if your code inserts stuff that is unrelated to the test.***

**REFERENCES *(this session just for reference, student can use other approach to do the practical exam)***

- Install package using CLI or Power Shell

|  |  |  |
| --- | --- | --- |
|  | *Microsoft.EntityFrameworkCore.SqlServer version* | *Microsoft.Extensions.Configuration, Microsoft.Extensions.Configuration.Json version* |
| *.NET 5* | *5.0.17* | *5.0.0* |
| *.NET 6* | *6.0.27* | *6.0.1/6.0.0* |
| *.NET 7* | *7.0.16* | *7.0.0* |
| *.NET 8* | *8.0.2* | *8.0.0* |

dotnet add package Microsoft.EntityFrameworkCore.SqlServer --version 5.0.17

dotnet add package Microsoft.EntityFrameworkCore.Design --version 5.0.17

dotnet add package Microsoft.EntityFrameworkCore.Tools --version 5.0.17

dotnet add package Microsoft.Extensions.Configuration --version 5.0.0

dotnet add package Microsoft.Extensions.Configuration.Json --version 5.0.0

- Setup SignalR Library

Add online SignalR Library via Add Client-site Library on Visual Studio 2019 or above

- Connection String

"Server=**(local)**;Uid=sa;Pwd=**1234567890**;Database=**SP25LionDB;** TrustServerCertificate=True"

Entity Framework Core

*- Install dotnet-ef for CLI*

dotnet tool install --global dotnet-ef --version 5.0.17

*- Use Entity Framework Core to generate Object Model from existing database – CLI*

dotnet ef dbcontext scaffold "Server=**(local)**;Uid=sa;Pwd=**1234567890**;Database=**SP25LionDB;**TrustServerCertificate=True" Microsoft.EntityFrameworkCore.SqlServer --output-dir ./

*- Generate database from domain classes – CLI.*

dotnet ef migrations add "InitialDB"

dotnet ef database update

Entity Framework Core

*- Use Entity Framework Core to generate Object Model from existing database – Package Manager Console*

Scaffold-DbContext "Server=**(local)**;Database=**SP25LionDB;**Uid=**sa**;Pwd=**1234567890**;TrustServerCertificate=True" Microsoft.EntityFrameworkCore.SqlServer -OutputDir ./

*- Generate database from domain classes – Package Manager Console*

Add-Migration "InitialDB"

Update-Database -verbose